

ABSTRACT

A conductive organic-inorganic hybrid material comprising a mineral phase in which walls
5 define pores forming a structured mesoporous network with open porosity; said material further comprising an organic oligomer or polymer integrated in said walls and bonded covalently to the mineral phase, and optionally another phase inside the pores, composed of
10 at least one surfactant; at least one of the mineral phase, the oligomer, and the organic polymer having conductive and/or hydrophilic functions.

Membrane and electrode comprising this material.

15 Fuel cell comprising at least one such membrane and/or at least one such electrode.

Process for preparing said material.